

**Amendments to the Claims**

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (currently amended): A system providing network infrastructure services, comprising:

a shared memory facility interconnecting a plurality of network devices each configured to perform a dedicated network infrastructure function, wherein the shared memory facility provides a physical transport medium for routing data packets between the network devices;

wherein each network device is configurable and comprises a local processor and a local memory, and each network device is configured to receive from a remote network node a kernel providing basic operating services to the network device and to load the received kernel.

Claim 2 (original): The system of claim 1, wherein the dedicated network infrastructure function is selected from the group consisting of: a network security function, a quality of service function, and a network management function.

Claim 3 (original): The system of claim 2, wherein the dedicated network infrastructure function is selected from the group consisting of: a proxy function, a load balancing function, a memory caching function, an encryption function, a compression function, a re-routing function, an application level network management function, and an active network management function.

Claim 4 (original): The system of claim 1, wherein the shared memory facility is a global shared memory facility, a distributed shared memory facility, or a logically shared memory facility.

Claim 5 (currently amended): The system of claim 1, wherein each network device is operable to perform only a single network infrastructure function at a time.

Claim 6 (canceled)

Claim 7 (currently amended): The system of claim 1 [[6]], wherein each network device includes in local memory an application module operable to control the functionality of the network device, and a configuration file containing parameters controlling operating characteristics of the network device.

Claim 8 (original): The system of claim 7, wherein each network device further comprises a kernel operable to provide basic services to the network device.

Claim 9 (currently amended): The system of claim 1 [[6]] wherein the dedicated network infrastructure function performed by a network device is dynamically configurable.

Claim 10 (original): The system of claim 9, where the dedicated network infrastructure function performed by a network device is selected based upon a network management policy.

Claim 11 (canceled)

Claim 12 (currently amended): A system providing network infrastructure services, comprising a shared memory facility interconnecting a plurality of network devices each configured to perform a dedicated network infrastructure function,

wherein each network device is configurable and comprises:

a local processor;

a local memory;

a local communications protocol stack; and

a shared memory interface system operable to provide a local shared memory network between the network devices, and a global shared memory network between the network devices and one or more remote nodes

by capturing packets from the local communications protocol stacks  
and routing the captured packets over the shared memory facility;

~~The system of claim 11~~, wherein the shared memory interface system on each local node comprises a local shared memory virtual adapter and a global shared memory virtual adapter;

the local shared memory virtual adapters being operable to capture locally addressed packets from the local communications protocol stacks and to route the captured packets for physical transport over the shared memory facility; and

the global shared memory virtual adapters being operable to capture globally addressed packets from the local communications protocol stacks and to route the captured packets for physical transport over the shared memory facility.

Claim 13 (original): The system of claim 12, wherein the local shared memory virtual adapters appear to the local communications protocol stacks as device drivers for physical network adapters connected to the local shared memory network, and the global shared memory virtual adapters appear to the local communications protocol stacks as device drivers for physical network adapters connected to the global shared memory network.

Claim 14 (currently amended): The system of claim 12 [[11]], wherein the local shared memory network and the global shared memory network provided by the shared memory interface system are each characterized by a respective configurable maximum transfer unit (MTU).

Claim 15 (currently amended): A method of providing network infrastructure services, comprising:

interconnecting through a shared memory facility a plurality of network devices each configured to perform a dedicated network infrastructure function; and

routing data packets between the network devices through the shared memory facility;  
and

changing the network infrastructure function performed by at least one of the network devices, wherein the changing of the network infrastructure function comprises routing from

a remote network node to each of the at least one network device a respective network service application providing the network infrastructure function performed by the network device.

Claim 16 (original): The method of claim 15, wherein the dedicated network infrastructure function is selected from the group consisting of: a network security function, a quality of service function, and a network management function.

Claim 17 (original): The method of claim 16, wherein the dedicated network infrastructure function is selected from the group consisting of: a proxy function, a load balancing function, a memory caching function, an encryption function, a compression function, a re-routing function, an application level network management function, and an active network management function.

Claim 18 (original): The method of claim 15, further comprising dynamically configuring the dedicated network infrastructure function performed by a network device.

Claim 19 (original): The method of claim 18, further comprising selecting the dedicated network infrastructure function performed by a network device based upon a network management policy.

Claim 20 (currently amended): ~~A method of providing network infrastructure services, comprising:~~

~~interconnecting through a shared memory facility a plurality of network devices each configured to perform a dedicated network infrastructure function; and~~

The method of claim 15, further comprising providing a local shared memory network between the network devices, and a global shared memory network between the network devices and one or more remote nodes by capturing packets from local communications protocol stacks of the network devices and routing the captured packets over the shared memory facility.

Claim 21 (currently amended): A computer program residing on a computer-readable medium and comprising computer-readable instructions for causing a computer system to:

interconnect through a shared memory facility a plurality of network devices each configured to perform a dedicated network infrastructure function; and route packets between the network devices through the shared memory facility; and change the network infrastructure function performed by at least one of the network devices, wherein the computer-readable instructions cause the computer system to change the network infrastructure function by routing from a remote network node to each of the at least one network device a respective network service application providing the network infrastructure function performed by the network device.

Claim 22 (previously presented): The computer program of claim 21, wherein the computer-readable instructions cause the computer system to dynamically configure the dedicated network infrastructure function performed by at least one of the network devices.

Claim 23 (previously presented): The computer program of claim 21, wherein the computer-readable instructions cause the computer system to provide a local shared memory network between the network devices and a global shared memory network between the network devices and one or more remote nodes by capturing packets from local communications protocol stacks of the network devices and routing the captured packets over the shared memory facility

Claim 24 (previously presented): The system of claim 1, wherein each network device comprises a shared memory virtual adapter configured to control the routing of packets through the shared memory facility.

Claim 25 (currently amended): The system of claim 1 [[6]], wherein the local memory of each network device stores a respective network service application providing the network infrastructure function performed by the network device.

Claim 26 (currently amended): The system of claim 1 [[6]], wherein each network device is configured to receive from a remote network node a configuration database containing operating parameters for the network device and to load the received configuration database.

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Claims 27-29 (canceled)